



ENVIRONMENTAL PROTECTION AGENCY

[EPA-HQ-ORD-2014-0581; FRL-9915-07-ORD]

Notice of Availability of the Risk Assessment Forum White Paper: Probabilistic Risk Assessment Methods and Case Studies and Probabilistic Risk Assessment to Inform Decision Making: Frequently Asked Questions

AGENCY: Environmental Protection Agency.

ACTION: Notice of Availability.

SUMMARY: This notice announces the availability of “Risk Assessment Forum White Paper: Probabilistic Risk Assessment Methods and Case Studies” and its companion document “Probabilistic Risk Assessment to Inform Decision Making: Frequently Asked Questions.” The drafts were released for public comment, and externally peer reviewed by experts from academia, industry, environmental groups, and other government agencies.

DATES: The document will be available for use by EPA risk assessors and other interested parties on **[INSERT DATE OF FR PUBLICATION]**.

ADDRESSES: *The Risk Assessment Forum White Paper: Probabilistic Risk Assessment Methods and Case Studies* and *Probabilistic Risk Assessment to Inform Decision Making: Frequently Asked Questions* are available electronically through the EPA Web site at <http://epa.gov/raf/prawhitepaper/index.htm>.

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SUPPLEMENTARY INFORMATION: PRA began playing an increasingly important role in Agency risk assessments following the 1997 release of EPA's *Policy for Use of Probabilistic Analysis in Risk Assessment at the U.S. Environmental Protection Agency* and publication of the *Guiding Principles for Monte-Carlo Analysis*. PRA was a major focus in an associated review of EPA risk assessment practices by the Science Advisory Board (SAB) (Letter from M. G. Morgan and R. T. Parkin, Science Advisory Board, to S. Johnson, U.S. Environmental Protection Agency. February 28, 2007. EPA/SAB-07/003).

[http://yosemite.epa.gov/sab/sabproduct.nsf/55E1B2C78C6085EB8525729C00573A3E/\\$File/sab-07-003.pdf](http://yosemite.epa.gov/sab/sabproduct.nsf/55E1B2C78C6085EB8525729C00573A3E/$File/sab-07-003.pdf)). Both this white paper and the companion FAQ document address

recommendations on risk assessment processes described in the U.S. National Research Council's (NRC) report *Science and Decisions: Advancing Risk Assessment*. The white paper and FAQ documents were released for public comment in September 2009 and underwent external peer review in May 2010.

PRA is a group of techniques that incorporate variability and uncertainty into the risk assessment process. PRA provides estimates of the range and likelihood of a hazard, exposure, or risk, rather than a single point estimate. It can provide a more complete characterization of risks, including uncertainties and variability, to protect more sensitive or vulnerable populations and lifestyles. The information obtained from a PRA can be used by decision makers to weigh risks from decision alternatives, or to invest in research with the greatest impact on risk estimate uncertainty.

These documents describe how PRA can be applied to enhance the scientific foundation for decision making across the Agency. They were created in response to recommendation of numerous advisory bodies, including the SAB and NRC; these groups recommended that EPA incorporate probabilistic analyses into Agency decision-making processes. This white paper and accompanying FAQ explain how EPA can use probabilistic methods to address data, model, and scenario uncertainty and variability by capitalizing on the wide array of tools and methods that comprise PRA.

Both documents address issues such as variability and uncertainty, their relevance to decision making, and the PRA goal of providing quantitative characterization of the uncertainty and variability in estimates of hazard, exposure, or risk. The difference between the white paper and the FAQs document is the level of detail provided about PRA concepts and practices and the intended audience (e.g., risk assessors for the white paper vs. decision makers) for the FAQ document.

Dated: July 31, 2014.

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[FR Doc. 2014-19065 Filed 08/11/2014 at 8:45 am; Publication Date: 08/12/2014]